Summary of Marbled Murrelet Habitat Monitoring Core Team Meeting 11/20/98

In Attendance:

Naomi Bentivoglio, FWS
Ken Ostrom, FWS
Sherri Miller, FS PSW
Jim Baldwin, FS PSW
Diane Evans, FS PNW
Randall Wilk, FS PNW
Tim Max, FS PNW
Kim Nelson, USGS OSU Coop

I. Data Sources

1. Want to try to get consistency. Identified what base map should be used for each province in each State. For Oregon and Washington we will use 1995 map satellite data and for CA we will use Fox's satellite imagery map (with the caveat that Sherri will look into accuracy assessment).

2. Ground data sources. Current Vegetation Survey (CVS), FIA (vegetation plots from private lands similar to CVS). BLM (for OR only). Private lands information in CA. Note the ground vegetation data is not necessarily from the same sites as the bird survey data. Need to determine the sample size.

3. Survey data. Only dealing with occupied and absence sites. 'Absence' if have > or = 8 visits with at least a minimum of 3 visits in a particular year without detections. Note some occupied areas were subsequently harvested, therefore the 1995 satellite maps may show clear cuts as occupied areas.

II. Modeling

A. Landsat model.
   1. Purpose to develop use versus availability. Scale = 400 meter radius circle.
   2. Use versus absence. Scale = 400 meter radius circle.
   3. How to select from a variety of layers? Look for accuracy assessment associated with each.
   4. Satellite data. Note we need to continue to fine-tune.
      a. 14 habitat classes
      b. Distance to salt water
      c. Distance to fresh water
      d. Aspect
      e. Average slope
      f. Elevation
      g. Distance to nearest suitable habitat type (or groups of types)
      h. Canopy cover

B. Ground based model.
   1. Use versus availability. Scale.
   2. Use versus absence. Scale.
   3. Problem: CVS plot data is not likely to match occupied sites often enough. First thing

to do is assess what you are lacking. Even if plot falls within the vicinity of an occupied area it may not be adequate. Might be able to get information from forest timber survey data or it might be best to go get information we really need ourselves.

C. Modeling Procedure.

1. Will be logistic regression.
2. Manual (not Stepwise).
3. Using All Possible Subsets.

III. To Do List

1. Jim will write a macro to get AIC (goodness of fit statistic) from these modeling programs.

2. Ken will obtain from Miles Hemstom a GIS layer of CVS and FIA plots. Looking for everything he can get in WA within the range of murrelet. Kim thinks she has OR but will call Ken if not.

3. Sherri is checking on accuracy assessment of Fox map in CA.

4. Kim, Diane, and Sherri will check for ground plot data - occupancy, absent, etc. What is the sample size? Ken will look into some of the other sources for ground plot (vegetation) data like timber survey data bases, etc.

5. Kim will send everyone a list of 14 variables in CLAMS data map.

6. Diane and Naomi will set up a conference call with Tom Owens (WADFW) to talk about their data set and what information we need in future.

7. Ken will attend a meeting December 16, 1998, with Ralph Warbington (FS Region 5) and John Teply (FS Region 6). We need CA (R5) to add the platform and moss variables to their CVS plots.

8. Sherri will contact Esther Burkett (CDFG) to see if murrelet survey data is in a format we can use. Does survey information link beyond survey station to a site? Did they maintain their site identifiers? Are there records in database and can you link survey info beyond database to a site?

9. Ken and Naomi will check into the 1995 mapping effort. Ask if the 1995 map include all of the Olympic peninsula, the coast in southwest WA, and the Cascades. Ken will also ask when map is available.

Next Meeting Scheduled for January 21, 1999, at the Duncan Plaza Bldg. (Cowlitz Conference Room, 7th floor) in Portland.

1. Report back on assignments. Should have numbers of ground sites with both vegetation and bird surveys, possibly even a map of sites with CVS plots.

2. Flesh out list of variables.
3. Fresh discussion on modeling procedure.